

AMENDMENTS TO THE DRAWINGS:

The replacement sheets in the Appendix include changes to Figure 1 and to Figure 6. The sheet including Figure 1 also includes Figure 2 and replaces the original sheet including Figures 1 and 2. In Figure 1, the lines for 1B and $E_{i,j}$ have been corrected. The sheet including Figure 6 also includes Figure 5 and replaces the original sheet including Figures 1 and 5. In Figure 6, the reference capacitance has been added without adding new matter.

REMARKS

The claims have been amended as to form and the specification and drawings have been amended to make editorial changes therein, bearing in mind the criticisms in the Official Action, to place the application in condition for allowance at the time of the next Official Action.

The indication that claims 5-6 and 19 include patentable subject matter is acknowledged with thanks. In reliance thereon, claim 5 has been amended into independent form by adding the subject matter of claims 1 and 2 thereto.

In response to the objection to claim 8, applicant advises that calibration and recalibration with the aid of reference capacitances are well known to one of ordinary skill in the art. A further disclosure is not believed to be necessary as it would include that which is already known.

Claims 21-30 were rejected under §112, second paragraph, and under 35 USC §101. These claims have been canceled and withdrawal of the rejections is respectfully requested.

Claims 1, 4, and 11 were rejected as unpatentable over KRONBERG 5,315,884 in view of ROZIERE FR 2,756,048 (the Official Action incorrectly cites FR 2,750,648 which has nothing to do with this invention). Reconsideration and withdrawal of the rejection are respectfully requested.

KRONBERG discloses a system comprising a capacitive proximity sensor in combination with processing means. The sensor, forming an antenna, is made of several pairs of electrodes. Each pair is used as capacitor of an oscillating circuit. The variation of frequency of this circuit makes it possible to estimate a distance. More precisely, the measurement of distance between the antenna and the object are estimated by measuring the disturbance of the electric capacitance created between two electrodes (constituting the antenna) by the presence of the object. This variation of capacitance is measured using the principle of frequency modulation, which needs a pair of electrodes by estimated distance. The measurement of the distance is thus carried out in a non-direct way, according to the law of an impure and empirical variation. Indeed, the measurement is made via the change in the oscillator's output frequency (see, column 5, lines 5-20 and Figure 5).

KRONBERG does not disclose that the electronic means comprises for each detection antenna, a floating capacitive bridge cooperating with polling means to measure sequentially the respective capacitances between each electrode of antenna and the object or body to be measured.

ROZIERE discloses a floating capacitive bridge comprising a measuring electrode, a guard electrode and an earthed electrode. This reference does not disclose measurement

of capacitance between an electrode and an object or body to be measured.

The technique of frequency modulation used by KRONBERG requires two electrodes. In the present patent application, each measurement of distance between the antenna and the object is directly given by measuring the capacitance between an electrode constituting part of the antenna and the object, and not an empirical deduction of the variation between two capacitance electrodes as disclosed by KRONBERG.

Starting out KRONBERG, one of ordinary skill in the art at the time the invention was made would not be motivated to combine this reference with ROZIERE because in KRONBERG the variation of capacity is measured using the principle of the frequency modulation (see in particular column 2 lines 27-36, column 2 lines 44-50), whereas ROZIERE describes an electronic system functioning on the principle of the amplitude modulation. (see, in particular page 8, lines 3-10). It would not have been obvious to one ordinary skill in the art at the time the invention was made to combine KRONBERG with ROZIERE.

Moreover, the incorporation of the floating capacitance bridge with polling means as taught by ROZIERE into the system of KRONBERG by one ordinary skill in the art at the time the invention was made does not lead to the present invention as claimed in claim 1. Each of these references discloses at least

two electrodes, whereas the present claim 1 defines an electrode close to an object or a body.

Therefore, it is believed that the presence of a floating capacitive bridge cooperating with polling means to measure sequentially the respective capacitances between each electrode of antenna and the object or body to be measured, provides claim 1 with novelty and nonobviousness over the proposed combination.

Dependent claims 2-3, 7-10, 12, 14-18 and 19 were rejected as unpatentable in view of additional references. These additional references do not make up for the shortcomings of the primary references noted above and reconsideration and allowance of these claims are respectfully requested for the reasons given above.

The Official Action did not address claim 13. A new non-final action addressing this claim is necessary, if the application is not in condition for allowance, so that the applicant will have an opportunity to amend this claim without having to refile.

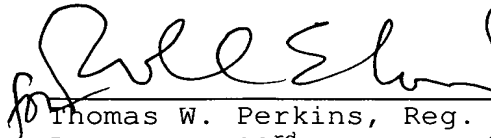
In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item:

- two replacement drawing sheets